

# Randall Children's Hospital

## Co-Management and Referral Guidelines

### Poorly Controlled Asthma

#### Randall Children's Pulmonology

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#### Introduction

Asthma remains the most common chronic disease in childhood.

- At least half of children with asthma begin having symptoms before two years of age.
- Identifying children with poor lung function and repeated asthma flares can lead to improved symptom control and improved quality of life.
- Unnecessary hospitalizations and Emergency Department visits can be avoided with aggressive education and management.

#### Evaluation and Management

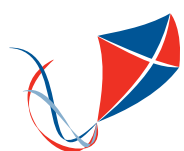
- Instruction regarding proper use of bronchodilator delivery systems including multidose inhaler with spacer or nebulizer (of little value without using a mask or mouth piece) should be provided both verbally and in writing.
- Use of an asthma action plan using sixth-grade language and reviewing the family's understanding of the steps in asthma management is shown to improve outcomes. Families should understand the difference between rescue bronchodilators and daily controller medications.
- The Childhood Asthma Control Test\* (ACT) is a simple questionnaire and reliable way to identify children with poorly controlled asthma. The test is available online:  
**<http://www.asthma.com/resources/childhood-asthma-control-test.html>**
  - Children who score less than 19 on the ACT should be considered poorly controlled.
  - Strong consideration should be given to starting these children on a trial of therapy with low dose inhaled steroids (such as Fluticasone 44 mcg: 2 puffs twice daily) for 3–6 months if they have not been treated previously, or doubling the dose for children already receiving inhaled steroids.
  - Linear growth should be carefully measured before and during steroid use.
  - Before increasing or changing controller therapy, the family should be asked about their understanding of and adherence to the regimen. Open-ended questions such as, "How many times a week do you think you forget to give his Flovent?" are helpful in allowing families to divulge the situation at home.

*\*The Childhood Asthma Control Test was developed by GSK.*

#### When to refer

Many families are reassured by a specialist evaluation in the following situations:

- Prior to initiating inhaled steroid therapy
- When symptoms suggesting asthma (such as a chronic cough) do not improve
- When a child does not respond to a well-understood asthma action plan
- When there is a concern that the child has a wheezing disorder other than asthma



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## Referral process

### Randall Children's Pulmonology

To make a referral refer via Epic or [fax the Randall Children's Hospital–Specialty Referral form](#) to 503-413-2419 (OR) or 360-487-1033 (WA).

For urgent referrals, call Legacy One Call Consult & Transfer: 1-800-500-9111 to speak to the on-call pediatric pulmonologist.

John McQueston, MD      William Nichols, MD

## Additional Resources

Sample asthma action plan:

<http://www.nhlbi.nih.gov/health/resources/lung/asthma-action-plan.htm>

Pedersen S.E., Hurd S.S., Lemanske R.F. Jr., et al. Global Initiative for Asthma, Global strategy for the diagnosis and management of asthma in children 5 years and younger. *Pediatric Pulmonology*. 2011 Jan;46(1):1-17. doi: 10.1002/ppul.21321. Epub 2010 Oct 20.

<http://www.ncbi.nlm.nih.gov/pubmed/20963782?report=abstract>

José A. Castro-Rodríguez, Catherine J. Holberg, Anne L. Wright, et al., A Clinical Index to Define Risk of Asthma in Young Children with Recurrent Wheezing, *American Journal of Respiratory and Critical Care Medicine*, Vol. 162, No. 4 (2000), pp. 1403-1406.

<https://www.nescon.medicina.ufmg.br/biblioteca/imagem/0080.pdf>

Guilbert T.W., Morgan W.J., Zeiger R.S., et al. Long-term inhaled corticosteroids in preschool children at high risk for asthma. *New England Journal of Medicine*. 2006 May 11;354(19):1985-97.

<http://www.ncbi.nlm.nih.gov/pubmed/16687711>

### Information regarding MDI and nebulizer use in children

Patient education sheet for MDI with spacer use:

<http://accpstorage.org/newOrganization/patients/inhaledDevices/patientEducation9.pdf>

Patient information regarding use of a nebulizer:

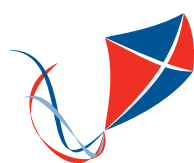
<http://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000006.htm>

Ploin D, Chapuis FR, Stamm D, et al. Highdose albuterol by metered-dose inhaler plus a spacer device versus nebulization in preschool children with recurrent wheezing: a double-blind, randomized equivalence trial. *Pediatrics* 2000;106(2 Pt 1):311-7. <http://www.ncbi.nlm.nih.gov/pubmed/10920157>

Dolovich MB, Ahrens RC, Hess DR, et al. Device selection and outcomes of aerosol therapy: evidence based guidelines. *Chest*. 2005; 127(1):335–371. <http://www.ncbi.nlm.nih.gov/pubmed/15654001>

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Find this and other co-management/referral guidelines online at: [legacyhealth.org/randallguidelines](http://legacyhealth.org/randallguidelines)



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